PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Streambank Practices

Description

The stream bank is the interface and the buffer between the land and the water. It serves various critical functions, including erosion control, infiltration, food production, and the facilitation of geomorphological processes such as flood conveyance and channel migration. Challenges facing stream banks include improper form, fishability, vegetation management, erosion, compaction, and impacts from livestock grazing, row-cropping, non-metallic mining, and beaver activity.

Streambank practices are intended to achieve the following objectives:

- Stabilize banks and reduce bank erosion, in-stream nitrification, and sedimentation.
- Provide flood flow conveyance, reduce flood energy, and allow for channel migration and open flood-water connections with floodplain features such as oxbows, open wetlands, or other side channel wetland features that harbor aquatic species.
- Restore wildlife habitat in conjunction with stream bank restoration.

Streambank enhancements often constitute intensive management, and should be applied only after assessments of instream and riparian habitat conditions and the health of the fishery have been conducted. Some treatments are considered major, ground-disturbing projects that entail careful planning. Water permits and/or hydrologic and hydraulic analyses pursuant to NR 116, Wisconsin Administrative Code, may be required and should be obtained before work begins. Specific practices are described below.

The most common method used is bank sloping (3:1 or flatter) while establishing vegetation with possible toe rip-rap. Sloping the banks (3:1 or flatter) allows for the dissipation of flood flow, reduction of flood energy, and lateral migration across the floodplain of the channel. Bank height should be reduced to allow seasonal flood patterns to develop for recharge of these riparian habitats. This may also help with groundwater recharge within the local area.

Banks which cannot be sloped may be stabilized with rip-rap or other acceptable practices such as woody debris or mats made of natural material. Rip-rap is not required along all portions which are sloped; judicious use of rip-rap helps maintain aesthetics, reduces project cost, and minimizes impacts on sensitive species such as mussels.

Opportunities exist to enhance wildlife habitat for reptiles and amphibians while restoring stream banks. Examples include connecting oxbows, creating ponds, and installing islands, hibernacula, and basking sites.

Considerations

- Consult with Natural Heritage Conservation staff during planning for streambank practices.